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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,377	04/19/2001	Steven Edward Atkin	AUS920010277US1	9249

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EXAMINER
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ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _19 January 2005_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1,2,4-12,14-22 and 24-30_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,2,4-12,14-22 and 24-30_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____ .

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is in response to the amendment filed 1/19/05.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Stansifer et al., (Stansifer), "Implementations of Bidirectional Reordering Algorithms",

Florida Tech Technical Report CS-2000-1, in view of Hutton, "FAQ for

comp.lang.functional" newsgroup publication.

As per claim 1, Stansifer discloses **a method of converting a logically ordered

character stream into a character stream suitable for display by a computer and

comprehension by a user** (p. 1 col. L:3-5, "We have provided an alternative

(bidirectional) reference algorithm written in the functional language, Haskell"),

        **- said logically ordered character stream having a plurality of characters

and control codes contained within it** (p. 1 col. R:24-26, "The algorithm is based

upon existing implicit layout algorithms and is supplemented by the addition of explicit

directional control codes"), said method comprising:

- **assigning bi-directional attributes to the logical character stream** (p. 2 col. R:30-31, "assign bidirectional attributes to the logical character stream"),

- **assigning initial level numbers and honoring any directional overrides by explicit processing** (p. 2 col. R:33-35, "explicit processing assigns level numbers as well as honoring any directional overrides"),

- **changing attribute types based upon surrounding attribute types through weak and neutral processing** (p. 2 col. R:35-37, "Weak and neutral processing potentially causes attribute types to change based upon surrounding attribute types"),

- **associating final level numbers to the logical character stream through implicit processing** (p. 2 col. R:37-38, "Implicit processing assigns final level numbers to the stream which control reordering."),

- **reordering said characters within said logical character stream according to said final level numbers such that said reordered characters form a character stream in display order** (p. 2 col. R:38-40, "Reordering then produces a sequence of Unicode characters in display order."),

- **wherein facets of layout relating to character reordering and facets related to character stream rendering are handled separately in a functional programming language,** (p. 1 col. L:3-5, "We have provided an alternative (bidirectional) reference algorithm written in the functional language, Haskell")

- **and said character stream is handled as sequential runs of integers during said step of assigning attributes, level numbers, changing attribute types, associating final level numbers, and reordering charcters** (p. 3 col. L:1-4,

"Wherever possible the implementation treats characters collectively as sequential runs

rather than as individual characters. By using one of data type Run's four possible type

constructors characters can then be grouped by level").

As per claim 2, the rejection of claim 1 is incorporated and further, Stansifer

discloses that **said step of assigning bidirectional attributes further comprises**

obtaining said bidirectional attributes from a character database (p. 2 col. R:30-33,

"The first step in our implementation is to lookup and assign bidirectional attributes to

the logical character stream. The attributes are obtained from the online character

database").

As per claim 4, the rejection of claim 1 is incorporated and further, Stansifer

discloses that **said step of changing attribute types based upon surrounding**

attribute types through weak and neutral processing in a functional programming

language comprises providing blocks of programming language (code) indexed

by name weak type processing, neutral type processing, and implicit level

processing such that said method may be readily used as a reference (p. 2 col.

R:35-37, "Weak and neutral processing potentially causes attribute types to change

based upon surrounding attribute types").

As per claim 5, the rejection of claim 1 is incorporated and further, Stansifer

discloses that **one or more steps are provided in Haskell functional language** (p. 1

col. L:3-5, "We have provided an alternative (bidirectional) reference algorithm written in

the functional language, Haskell").

As per claims 6-10, the rejection of claim 1 is incorporated and further, Stansifer

doesn't explicitly disclose that the algorithm is implemented **in the Erlang, SML,**

Miranda, Lisp or Scheme functional languages.

However, Hutton, in an analogous environment, discloses an algorithm is

implemented **in the Erlang, SML, Miranda, Lisp or Scheme functional languages** (p.

1:9-25, "Erlang ... Haskell ... Miranda ... (S)ML ... Scheme" and p. 30:22, "Lisp").

Therefore, it would have been obvious to a person of ordinary skill in the art, at

the time the invention was made, to incorporate the teachings of Hutton into the system

of Stansifer to have the algorithm implemented **in the Erlang, SML, Miranda, Lisp or**

Scheme functional languages. The modification would have been obvious because

one of ordinary skill in the art would have wanted to exploit the advantages of each of

the languages in the proper situation (e.g. Haskell is advantageous as it is a "standard"

non-strict, purely-functionally programming language (Hutton, p. 23:14-15), Erlang is

advantageous in situations involving large real-time systems (p. 21:19-20), SML is

advantageous as it is an advanced programming language with functional control

structures, strict semantics, a strict polymorphic type system, and parameterized

modules (p. 26:22-25), Miranda is advantageous as it is the first widely disseminated

language with non-strict semantics and polymorphic strong typing (p. 25:18-20), Lisp is

a powerful programming language with relatively simple syntax, Scheme is

advantageous as it is a dialect of Lisp that stresses conceptual elegance that is able to

simply represent many programming abstractions (p. 30:20-28)).

Claims 11, 12 & 14-20, are directed to a computer readable medium version of

the claimed method discussed above, in claims 1, 2 & 4-10, wherein all claimed

limitations have also been addressed and/or cited as set forth above. For example, see

the Stansifer/Hutton combination (e.g. Stansifer, p. 1 col. L:2 – p. 3 col. L:26, and

Hutton, p. 1:9-30:22).

Claims 21, 22 & 24-30, are directed to a text code conversion system version of

the claimed method discussed above, in claims 1, 2 & 4-10, wherein all claimed

limitations have also been addressed and/or cited as set forth above. For example, see

the Stansifer/Hutton combination (e.g. Stansifer, p. 1 col. L:2 – p. 3 col. L:26, and

Hutton, p. 1:9-30:22).

Response to Arguments

4.   Applicants arguments 1-4, on p. 11:16-13:16 and 13:21-18:14 have been

considered but they are moot in view of the new ground(s) of rejection.

5.   Applicant's argument 5, on p. 13:17-18 and 18:15-19:15 has been fully

considered but it is not persuasive.

In the remarks, the applicant has argued substantially that:

1)   There is insufficient evidence to afford an effective filing date of 11/01/00 to the

Hutton reference.

Examiner's response:

1)   The examiner has located and cited an earlier version of the Hutton reference

(7/30/99). All of the cited information from the 11/01/00 Hutton reference is disclosed in

the Hutton document posted 7/30/99. Thus, the document has provided evidence to

afford an effective filing date at least as early as 11/01/00.

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre R. Fowlkes whose telephone number is (571) 272-3697. The examiner can normally be reached on Monday - Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARF

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PRIMARY EXAMINER